

REMARKS/ARGUMENTS

In response to the Final Office Action dated January 3, 2007, the Applicant offers the following submissions.

35 U.S.C. §103 - Claims 3 and 4

Claims 3 and 4 stand rejected as obvious in light of US 6,962,404 to Nunokawa et al, in view of US 6,612,240 to Silverbrook et al. The Applicant respectfully submits that the cited references fail to teach fundamental elements of independent claim 4 and that the Office Action has been made Final in error.

Claim 4 is restricted to “the controller being configured to determine how many of the separate integrated circuits are needed to operate the pagewidth printhead at the print speed of the installed cartridge”. The present invention has a controller with surplus processing capacity when a cartridge with low performance characteristics is installed. When a cartridge with high performance characteristics is installed, the controller engages the additional processing capacity so that the cartridge operates at its full capabilities. In this way, the printer is genuinely upgradable with the installation of a cartridge with higher performance characteristics.

In contrast, Nunokawa offers users a choice – high print quality or high print speed. The printhead can print at high resolutions in seven color planes, but the user needs to compromise on print speed. Conversely, the printer can operate at higher speeds, as long as the user will accept the print quality of four color planes. In either case, the control circuit 40 operates at full processing capacity. There is no disclosure of a controller that can engage additional integrated circuits to process and buffer print data at a greater rate.

Similarly, Silverbrook ('240) has a print engine controller (PEC) for each pagewidth printhead 104 and 106. Both of the PECs 126 are used during operation. At no time is one of the PECs 126 surplus to the print processing requirements and left inactive. Likewise, the PCB's are given enough DRAM 128 to satisfy the printing application for which the printer is constructed (see col. 6, lines 33-45). The Silverbrook reference is not upgradable

in the sense that it does not accommodate a higher performance printhead by drawing on additional processing capacity.

We submit that claim 4 distinguishes the present invention from the cited references. As discussed above, the controller has a number of separate integrated circuits individually mounted to the cradle. Each integrated circuit has a memory buffer for print data and the controller determines how many of the separate integrated circuits are needed to operate the installed cartridge at its designated print speed. Neither of the citations disclose a controller with a number of separate driver chips (ICs) so that the capacity of the drive circuitry can be matched to different cartridge units.

In light of the above, the cited reference does not teach a fundamental element of the present invention. Accordingly, the cited reference fails to anticipate the invention defined by claim 4 or previously amended claim 3.

Conclusion

It is respectfully submitted that the Examiner's rejection has been successfully traversed and the application is now in condition for allowance. Accordingly, withdrawal of the finality of the previous report is requested and favorable reconsideration is courteously solicited.

Very respectfully,

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